



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,009	09/27/2001	Patrick Joseph Bohrer	AUS920010429US1	2742

44994 7590 11/02/2005

IBM CORPORATION (DWL)  
C/O LALLY & LALLY, L.L.P.  
P. O. BOX 684749  
AUSTIN, TX 78768-4749

EXAMINER

PRIETO, BEATRIZ

ART UNIT PAPER NUMBER

2142

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/965,009

Applicant(s)

BOHRER ET AL.

Examiner

Prieto B.

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,6-8,10,15-17,19 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6-8,10,15-17,19 and 24-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/05.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

***DETAILED ACTION***

1. This communication is in response to Amendment filed 7/29/05, all claims 1, 6-8, 10, 15-18, 19 and 24-26 have been amended and claims 2-5, 9, 11-14, 18, 20-23 have been canceled.
2. Acknowledgment of Replacement Drawing Sheets received with the above-mentioned amendment has been entered. These drawings are acceptable, previous objection is hereby withdrawn.
3. Amendments to claim 10 obviated previously raised objection, it is hereby withdrawn. Cancellation of claim 19 obviated previously raised objection, which is also hereby withdrawn.

***Claim Rejections - 35 USC § 103***

4. Quotation of the appropriate paragraphs of 35 U.S.C. 102 and/or 103 that form the basis for the rejections under this section made in this Office action may be found in previous office action.
5. Claims 1, 10, and 19 are rejected under 35 U.S.C. 103a(a) as obvious over Dutta (US 6,658,462) in view of Biliris et. al. (US 5,720,037) (Biliris hereafter)

Regarding claim 1, Dutta discloses a method of processing a client request for a file, comprising:

retrieving a first fragment of the file from a first storage and transmitting the first fragment to the client (col. 4, lines 58-59);

retrieving a subsequent fragment of the file from a second storage while the first fragment is transmitting (col. 4, lines 59-61); and

after transmission of the first fragment completes, transmitting the subsequent fragment to the client (col. 4, lines 61-65), however, Dutta does not explicitly teach where the first and second storage at the server, and the first storage is a volatile storage and the second is a disk storage.

Biliris teaches a system (Fig. 1) comprising a library (100) which includes a first storage device (102) and a second storage device (101) storing digital program audio and video information, e.g. a movie (col 3/lines 19-25); the movie stored with library 100 is separated in continuous partitions (col 4/lines 40-56);

wherein a first small portion of the beginning of the movie is stored on the RAM (102) and the remainder is

stored on the disk (101) (col 3/lines 25-29 and col 5/lines 25-32); data retrieved from the disk is routed through the corresponding dedicated line to the corresponding RAM buffer (108-112); after all the data has been retrieved from the RAM (102), the retrieval process continues with data from the disk (101) (col 6/lines 21-30); the first or initial portions of the movie are transmitted from the RAM buffers (108-112) (col 8/lines 1-22);

It would have been obvious to one of ordinary skill at the time the invention was made given the suggestion of reducing latency applicable to distributed systems using but not limited to disk and main memory storage devices, the teaching of Biliris would be readily apparent. One would be motivated to utilize the latter teachings to maximize the number of potential on-demand viewers while keeping volatile storage capacity requirements to a minimum and reduce the latency associated with disk access retrieval operations by retrieving data from the RAM for compensating for the inherent delay of the disk.

Regarding claim 10, this claim is the apparatus "server device" claim for performing the steps or acts, discussed with respect to the method claim 1, including volatile storage (former first tier of the server) and disk storage former lower tier, as applied from Biliris, wherein a library (100) comprises a first volatile storage device (RAM 102) and a second disk storage device (101) storing digital program audio and video information, e.g. a movie (Biliris col 3/lines 19-25); the movie stored with library (100) is separated in continuous partitions (Biliris: col 4/lines 40-56), same rationale of rejection is applicable, the applied prior art further teaches, a processor (Dutta: fig. 2, item 105);

a system memory accessible to the processor and configured with instructions suitable for execution by the processor (Dutta: fig. 2, item 105);

server code means for transmitting a first fragment of the file that is stored in a first tier of server storage to the client (Dutta: col. 4, lines 58-59);

server code means for retrieving a subsequent fragment of the file from a lower tier of storage while the first fragment is transmitting (Dutta: col. 4, lines 59-61); and

server code means for transmitting the subsequent fragment to the client after transmission of the first fragment completes (Dutta: col. 4, lines 61-65);

Regarding claim 19, this is the computer program product residing on a computer readable medium for enabling said method discussed on claim 1 and said apparatus discussed on claim 10, same rationale is applicable, wherein a library (100) comprises a first volatile storage device (RAM 102) and a second disk storage device (101) storing digital program audio and video information, e.g. a movie (Biliris col 3/lines

19-25); the movie stored with library (100) is separated in continuous partitions (Biliris: col 4/lines 40-56), comprising:

server code means for transmitting a first fragment of the file that is stored in a first tier of server storage to the client (Dutta: col. 4, lines 58-59);

server code means for retrieving a subsequent fragment of the file from a lower tier of storage while the first fragment is transmitting (Dutta: col. 4, lines 59-61); and

server code means for transmitting the subsequent fragment to the client after transmission of the first fragment completes (Dutta: col. 4, lines 61-65).

6. Claims 1, 10, and 19 are rejected under 35 U.S.C. 103(a) as being obvious over Lin (US 6,405,256) in view of Biliris et. al. (US 5,720,037) (Biliris hereafter)

Regarding claim 1, Lin discloses a method of processing a client request for a file, comprising:

transmitting a first fragment of the file that is stored in a first tier of server storage (fig. 1, item 114,126) to the client (fig. 1, item 120; col. 8, lines 2-4);

retrieving a subsequent fragment of the file from a lower tier of storage (fig. 1, item 112, 126) while the first fragment is transmitting (col. 8, lines 4-6); and

after transmission of the first fragment completes, transmitting the subsequent fragment to the client (col. 8, lines 14-16); however Lin does not explicitly disclose where the first fragment is from a volatile storage device and the second fragment is from a disk storage, as now claimed.

Biliris teaches wherein a first small portion of the beginning of the movie is stored on the RAM (102) and the remainder is stored on the disk (101) (col 3/lines 25-29 and col 5/lines 25-32); data retrieved from the disk is routed through the corresponding dedicated line to the corresponding RAM buffer (108-112); the first or initial portions of the movie are transmitted from the RAM buffers (108-112) (col 8/lines 1-22); and after all the data has been retrieved from the RAM (102), the retrieval process continues with data from the disk (101) (col 6/lines 21-30).

It would have been obvious to one of ordinary skill at the time the invention was made given the suggestion of using of a server containing both a RAM and disk storage for storing a file in both, the teachings of RAM for using both of these storages would be readily apparent. One would be motivated to utilize the latter teachings to maximize the number of potential on-demand viewers while keeping volatile storage capacity requirements to a minimum and reduce the latency associated with disk access retrieval operations by retrieving data from the RAM for compensating for the inherent delay of the disk.

Claims 2-5 (canceled)

Regarding claim 10, this claim is the apparatus “server device” claim for performing the steps or acts, discussed with respect to the method claim 1, including volatile storage (former first tier of the server) and disk storage former lower tier, as applied from Biliris, wherein a library (100) comprises a first volatile storage device (RAM 102) and a second disk storage device (101) storing digital program audio and video information, e.g. a movie (Biliris col 3/lines 19-25); the movie stored with library (100) is separated in continuous partitions (Biliris: col 4/lines 40-56), Lin discloses a server device (fig. 1, item 100,106), comprising:

- a processor (Lin: fig. 1, item 102);

- a system memory accessible to the processor and configured with instructions suitable for execution by the processor (Lin: fig. 1, item 104);

- server code means for transmitting a first fragment of the file that is stored in a first tier of server storage to the client (Lin: col. 8, lines 2-4);

- server code means for retrieving a subsequent fragment of the file from a lower tier of storage while the first fragment is transmitting (Lin: col. 8, lines 4-6); and

- server code means for transmitting the subsequent fragment to the client after transmission of the first fragment completes (Lin: col. 8, lines 14-16).

Claim 11-14 (canceled)

Regarding claim 19, this is the computer program product residing on a computer readable medium for enabling said method discussed on claim 1 and said apparatus discussed on claim 10, same rationale is applicable, wherein a library (100) comprises a first volatile storage device (RAM 102) and a second disk storage device (101) storing digital program audio and video information, e.g. a movie (Biliris col 3/lines 19-25); the movie stored with library (100) is separated in continuous partitions (Biliris: col 4/lines 40-56), comprising:

- server code means for transmitting a first fragment of the file that is stored in a first tier of server storage to the client (Lin: col. 8, lines 2-4);

- server code means for retrieving a subsequent fragment of the file from a lower tier of storage while the first fragment is transmitting (Lin: col. 8, lines 4-6); and

- server code means for transmitting the subsequent fragment to the client after transmission of the first fragment completes (Lin: col. 8, lines 14-16).

Claims 20-23 (canceled)

7. Claims 6, 15, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Biliris in further view of Bishop (US 5,539,895).

Regarding claim 6, Lin-Biliris teach where the first fragment of the requested file is retrieved from a volatile storage of a server and the subsequent fragment of the file is retrieved from a disk storage of the server while the first fragment is transmitting, they are silent regarding the validity of the stored fragments.

Bishop teaches that if it is determined that data in a first level of cache is determined to be invalid that the data can be updated by transmitting it to the first level cache from the second level memory (col. 1, lines 50-56).

Lin and Bishop are analogous art because they are both from the same field of endeavor of computer systems.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Lin's method to allow it to re-load a data segment from the previous cache if it is determined that the data segment is invalid. The motivation for doing so would have been to enable Lin's method to auto-correct any invalid data segments. Therefore it would have been obvious to combine Bishop with Lin for the benefit of auto-correction.

Regarding claim 15, Lin does not expressly disclose code means for retrieving the first fragment from a lower tier of storage and storing the first fragment in the first tier responsive to determining that a first fragment of the requested file is not valid in the first tier of storage.

Bishop teaches that if it is determined that data in a first level of cache is determined to be invalid that the data can be updated by transmitting it to the first level cache from the second level memory (col. 1, lines 50-56).

Lin and Bishop are analogous art because they are both from the same field of endeavor of computer systems. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Lin's server device to allow it to re-load a data segment from the previous cache if it is determined that the data segment is invalid. The motivation for doing so would have been to enable Lin's device to auto-correct any invalid data segments. Therefore it would have been obvious to combine Bishop with Lin for the benefit of auto-correction.

Regarding claim 24, Lin does not expressly disclose code means for retrieving the first fragment from a lower tier of storage and storing the first fragment in the first tier responsive to determining that a first fragment of the requested file is not valid in the first tier of storage.

Bishop teaches that if it is determined that data in a first level of cache is determined to be invalid that the data can be updated by transmitting it to the first level cache from the second level memory (col. 1, lines 50-56).

Lin and Bishop are analogous art because they are both from the same field of endeavor of computer systems. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Lin's computer program product to allow it to re-load a data segment from the previous cache if it is determined that the data segment is invalid. The motivation for doing so would have been to enable Lin's product to auto-correct any invalid data segments. Therefore it would have been obvious to combine Bishop with Lin for the benefit of auto-correction.

Claims 9 and 18 (canceled)

8. Claims 7-8, 16-17, and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin-Biliris in view of Bishop applied to claims 6, 15, and 24 above, and further in view of Walrand, Communication Networks a First Course, 2<sup>nd</sup> Ed. Univ. of California at Berkeley, WCB, McGraw-Hill, 1998, p. 166.

Regarding claims 7-8, 16-17, and 25-26, the above-mentioned prior art do not disclose determining a size for the first fragment and limiting said first fragment size based upon the determine size and number of active packet permitted (i.e. active transmission window) of a "TCP/IP" connection between the server and client or that the first fragment size is less than or equal to the maximum active transmission window of the server.

Walrand teaches that when using TCP, a transmission window size is used to determine the maximum amount of data that can be sent without an acknowledgement (p. 166, lines 12-14).

Lin, Bishop, and Walrand are all analogous art because they are all from the same field of endeavor of computer systems. At the time of invention it would have been obvious to one of ordinary skill in the art that TCP could be used for Lin's data transfers using TCP/IP, and therefore that the data would be broken up into segments no larger than the transmission window size, as taught by Walrand. The motivation for doing so is to allow for faster data transfer because the sender can send more data



without having to stop and wait for an acknowledgement. Therefore it would have been obvious to combine Walrand with Lin and Bishop for the benefit of faster data transfer.

9. Claims 7-8, 16-17, and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin-Biliris in view of Bishop applied to claims 6, 15, and 24 above, and further in view of Lindsay (US 6,788,704).

Regarding claims 7-8, 16-17, and 25-26, the above-mentioned prior art do not disclose determining a size for the first fragment and limiting said first fragment size based upon the determine size and number of active packet permitted (i.e. determined active transmission window) of a "TCP/IP" connection between the server and client or that the first fragment size is less than or equal to the maximum active transmission window of the server.

Lindsay teaches wherein limiting a size of fragment based on the active window size permitted by the connection, i.e. a size and number of active packets permitted (col 4/lines 64-col 5/line 5) and where a fragment size is equal to maximum number of packets permitted by a connection, i.e. an active transmission window by a connection multiplied by the maximum packet size permitted by the connection (col 5/lines 6-15).

Lin and Lindsay are all analogous art because they are all from the same field of endeavor of computer systems. At the time of invention it would have been obvious to one of ordinary skill in the art that TCP could be used for Lin's data transfers using TCP/IP, and therefore that the data would be broken up into segments no larger than the transmission window size, as taught by Lindsay. The motivation for doing so is to allow for faster data transfer because the sender can send more data without having to stop and wait for an acknowledgement. Therefore it would have been obvious to combine these teachings for the benefit of faster data transfer.

**Citation of Pertinent Art:**

10. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Copies of Non-Patent Literature documents cited will be provided as set forth in MPEP§ 707.05(a):

US 2002/0112069

Sim teaches fragmenting a file into multiple portions [0036], wherein said fragmenting makes it possible to distribute the fragment blocks into different storage devices [0086], the system (700 of Fig. 7) comprises one server (703) and a plurality of storage devices (711-713), a distribution server (DS) stores the file locally as blocks over different storage volumes (see Fig 7, blocks 711-713), wherein the storage volumes can be any collection of storage devices, e.g. disks arrays attached to a server, RAID, NAS or SAN [0105], where the entire content of the file may be maintained at single node is desired [0044] or in nodes distributed throughout the network [0071, 0079]

US 6,131,012

Struhsaker et. al. teaches fragmenting a long TCP/IP message into pieces of appropriate length for transmission in a wireless local loop (WLL) system, the TCP/IP message is divided up into several fragments of maximum size that can be handled by the system.

US 6,570,849

Skemer teaches setting a Maximum Transmission Unit (MTU) defines the largest size of a packet that can be carried by an interface protocol in the communications protocol; if a packet to be transmitted is larger than the MTU at a given network node, the packet is fragmented, by an IP fragmentation process, in such a way that no individual fragment is larger than the MTU. The MTU value is determined by subtracting the portion of launch window consumed for the real-time window, from the total available launch window. The result is then rounded up to a multiple of the basic packet size and given to a node, for purposes of an IP network, the MTU is rounded up to the nearest multiple of 64.

US 2002/0186660

Bahadiroglu teaches in TCP/IP, for example, the window size is set at one when there is no data being sent across the network and when packets begin to flow on the network TCP/IP starts increasing the window size towards the predefined maximum. If the current window size is near or at maximum when new data is transmitted, the packets will be placed on the network in rapid succession until all the packets are sent, whereupon the window size will be reset to one as there are no further packets to be transmitted. When data is transmitted intermittently, as in successive, separated blocks, the window size may be reset to one at the end of each block of transmitted data. The window size will thereby start at one for each new block of data, so that TCP/IP is prevented from fully utilizing the available bandwidth.

***Response to Arguments***

11. Regarding claims 1, 10 and 19, it is argued (p. 8 of remarks) that the applied prior art does not teach claims are amended. Specifically, retrieving the first fragment of a file from volatile storage of a server and retrieving a subsequent fragment of the file from disk storage of the server.

In response to the above-mentioned argument, applicant's interpretation of the applied references has been reviewed. However, Biliris teaches a library (100) comprises a first volatile storage device (RAM 102) and a second disk storage device (101) storing digital program audio and video information, e.g. a movie (Biliris col 3/lines 19-25); the movie stored with library (100) is separated in continuous partitions (Biliris: col 4/lines 40-56); wherein a first small portion of the beginning of the movie is stored on the RAM (102) and the remainder is stored on the disk (101) (col 3/lines 25-29 and col 5/lines 25-32) and where after all the data has been retrieved from the RAM (102), the retrieval process continues with data from the disk (101) (col 6/lines 21-30).

12. Regarding claims 7, 16 and 25, it is argued (p. 9 of remarks) that the applied prior art does not teach claim limitation as now amended. Specifically, limiting a size of the first fragment based upon a size and number of active packets permitted by a TCP/IP connection between the server and the client, because the window in the Walrand reference is not the same as the TCP/IP type of window.

In response to the above-mentioned argument, applicant's interpretation of the applied prior art has been reviewed. However, according to applicant's disclosure the term "active" only appears twice in the specification and it pertains to the transmission window, i.e. to the "active transmission window". Specifically, "In one embodiment, the size of first fragments 137 is roughly equal to the amount of data that can be reliably transmitted from server 111 in a single transmission burst. As indicated previously, the client-server connection establishes one or more limits on the amount of data that can be transmitted in a burst over the connection before an acknowledgment is required. This limit is referred to herein as the transmission window. Server 111 preferably monitors its various client connections and their corresponding transmission windows. Server 111 may set the size of first fragments 137 in file cache 135 to accommodate the largest active transmission window. As subsequent client-server connections are opened and closed, the size of first fragments 137 may change to reflect changes in the largest active transmission window. Determining the size of first fragments 137 based upon the size of the largest transmission window guarantees a minimum level of server responsiveness regardless of the client requesting data while still substantially reducing the amount of system memory required for file

cache 135. In a TCP environment, for example, the maximum transmission window is typically 64 KB and the actual transmission windows likely to be encountered in real client-server connections are typically significantly smaller than the maximum. In contrast, web pages and other files that are likely to be requested by a client now routinely exceed 1 MB. By allowing server 111 to store only a small fraction of large data files in its file cache 135, the invention has the potential to dramatically reduce the size of file cache 135, increase the number of files that are cached, or a combination of both without impacting responsiveness” (page 7, line 21, page 8, line 9).

Thereby, claimed clause [AS BEST UNDERSTOOD], refers to limiting the size of first fragments to roughly equal to the amount of data that can be reliably transmitted from server in a single transmission burst, this limit is referred to herein as the transmission window, i.e. the size of first fragments and number of packets based on the largest active transmission window.

Walrand teaches limiting the size of first fragments equal to the amount of data that can be reliably transmitted from server in a single transmission burst, this limit is referred to herein as the transmission window, i.e. the size of first fragments and number of packets based on the largest active transmission window (p. 166).

13. Applicant's arguments filed 7/29/05 have been fully considered but not found persuasive.

14. Reply to a final rejection or action must include cancellation of, or appeal from the rejection of, each rejected claim. If any claim stands allowed, the reply to a final rejection or action must comply with any requirements or objections as to form (see 1.113). If prosecution in an application is closed, an applicant may request continued examination of the application by filing a submission and the fee set forth in § 1.17(e) prior to the earliest of: (c) A submission as used in this section includes, but is not limited to, an information disclosure statement, an amendment to the written description, claims, or drawings, new arguments, or new evidence in support of patentability. If reply to an Office action under 35 USC 132 is outstanding, the submission must meet the reply requirements of § 1.111 (see MPEP 706.07).

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prieto, B. whose telephone number is (571) 272-3902. The Examiner can normally be reached on Monday-Friday from 6:00 to 3:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Andrew T. Caldwell can be reached at (571) 272-3868. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system, status information for published application may be obtained from either Private or Public PAIR, for unpublished application Private PAIR only (see <http://pair-direct.uspto.gov> or the Electronic Business Center at 866-217-9197 (toll-free).

Any response to this action should be mailed to:  
Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313-1450

Hand carried or delivered to:  
Customer Service Window located at the Randolph Bldg.  
401 Dulany St.  
Alexandria, VA 22314

Faxed to the Central Fax Office:  
(703) 872-9306 (old No. in service until Sept. 15, 2005),  
(571) 273-8300 (New Central Fax No.)

Or Telephone:

(703) 306-5631 for TC 2100 Customer Service Office.

  
BEATRIZ PRIETO  
PRIMARY EXAMINER